

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

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Ex parte RONALDUS MARIA AARTS,  
ROBERTUS T.J.T. DEKKERS and  
GERARDUS C.P. LOKHOFF

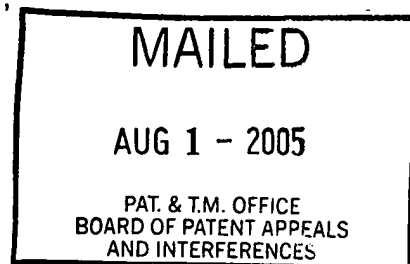
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Appeal No. 2005-1769  
Application No. 09/741,917

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ON BRIEF

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Before THOMAS, HAIRSTON, and KRASS, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 2-6. Claim 1 has been canceled.

The invention is directed to an audio signal processing device. In particular, the perceived direction in which the speech signals portion of combined speech and music signals is adjustable. The invention is said to find utility in wide-screen television

receivers, where it is desirable if the speech signal is perceived to originate from the relative position of the speaker on the television screen, rather than from some other section, e.g., the center position where a speaker may be located.

Independent claim 2 is reproduced as follows:

2. An audio signal processing device comprising:

input means for receiving combined speech and music signals on  $n$  input channels,  $n$  being an integer;

separating means for substantially separating the speech signals from the music signals;

signal direction detection means for ascertaining a direction from which the speech signals originate;

converter means for converting the speech signals in accordance with a desired virtual change in the direction from which the speech signals can be heard, said converter means forming modified speech signals; and

combination means for combining the modified speech signals and the music signals, and for outputting the combination modified speech and music signals on  $m$  output channels,  $m$  being an integer.

The examiner relies on the following references<sup>1</sup>:

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<sup>1</sup>Our understanding of these references is based on English translations thereof, of record in the case file. Copies of the English translations are attached hereto.

Atsushi et al. (Atsushi), Japanese Patent Application Publication 07-056497, filed March 3, 1995.

Masaharu et al. (Masaharu), Japanese Patent Application Publication 09-114479, filed February 5, 1997.

Claims 2-6 stand rejected under 35 U.S.C. §103 as unpatentable over Masaharu in view of Atsushi.

Reference is made to the brief and answer for the respective positions of appellants and the examiner.

### OPINION

In rejecting claims under 35 U.S.C. §103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teachings, suggestions or implications in the prior art as a whole or

knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1040, 228 USPQ 685, 687 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1051, 189 USPQ 143, 146-147 (CCPA 1976). Only those arguments actually made by appellant have been considered in this decision. Arguments which appellant could have made but chose not to make in the brief have not been considered and are deemed to be waived [see 37 CFR §41.67(c)(1)(vii)].

Citing various specific portions of Masaharu, at page 4 of the answer, the examiner explains that Masaharu discloses the subject matter of claim 2 but for the claimed "signal direction detection means" and the "converter means."

The examiner contends, however, that the "concept was well known in the art" (answer-page 4), and cites Atsushi as evidence of that allegation. In particular, the examiner points to paragraphs 0005-0007 of the English translation of Atsushi for a voice virtual location system that relocates a voice to a position in virtual space.

The examiner concludes that it would have been obvious to modify Masaharu by specifically providing signal direction means both inputted and virtual, as taught by Atsushi, "to generate a more realistic voice representation" (answer-page 5).

Appellants contend that claim 2 calls for combining the "modified" speech signals with the music signals, but that Masahura merely discloses devices for separating the voiced components of the combined signal, processing the "voiceless" resultant signal, and then re-inserting the unprocessed voice components so that the voice components are not subjected to the processing. Appellants contend, however, that Masahura neither discloses nor suggests any form of processing of the separated voice components (brief-page 6).

Moreover, appellants contend that there is no suggestion or motivation to modify Masaharu with the teachings of Atsushi, and to do so constitutes impermissible hindsight on the part of the examiner. In addition, appellants allege nonanalogous arts with regard to Masaharu and Atsushi.

We have reviewed the evidence in this case, including the arguments of appellants and the examiner and, based on such review, we will not sustain the rejection of claims 2-6 under 35 U.S.C. §103.

Independent claim 2 requires combined speech and music signals and separating the speech signals from the music signals. Masahura teaches separating voice components of a combined signal. Thus, this much of claim 2 may be said to be suggested by Masaharu.

However, claim 2 further requires a converter means for "converting the speech signals in accordance with a desired virtual change in the direction from which the speech signals can be heard, said converter means forming modified speech signals." Thus, it is the "speech" signals which must be modified. Yet, in Masahura, as pointed out by appellants, it is the "voiceless," rather than the voice, or speech, signals which are processed. Note the English abstract ("Voice signals are eliminated...") and

paragraph 0015 of the English translation ("a voice removal means..."). Thus, Masahura provides no suggestion for processing the voice, or speech, signals, as in the instant claims. Moreover, as even the examiner admits, Masahura, of course, is silent with regard to the claimed "signal direction detection means for ascertaining a direction from which the speech signals originate."

Although the examiner relies on Atsushi for the teaching of the signal direction detection means, it is not entirely clear from the examiner's rationale, exactly what it is, in Atsushi, that is said to be the claimed "signal direction detection means." To be sure, Atsushi is directed to a voice virtual location system which locates an operator's voice to a virtual position in virtual space, in response to an operator's voice inputted to a microphone, along with position data and state data. But, even assuming that there is some unidentified "signal direction detection means" in Atsushi, we do not find sufficient motivation for the artisan to have combined Atsushi in any manner with Masahura in order to result in the instant claimed invention. Since Masahura has no interest in the direction from which speech signals originate and, in fact, does not process any speech, or voice, signals at all, one must ask why the artisan would have been led, by anything in Atsushi, to provide for a signal direction detection means in Masahura and for any processing of speech signals.

The examiner explains that the artisan would have modified Masaharu by specifically providing signal direction means both inputted and virtual, as taught by Atsushi, "to generate a more realistic voice representation." However, such a general and simplistic rationale does not adequately explain what it is in either reference which would have suggested the use, or need, for a signal direction detection means in Masahura. Moreover, since Masahura suggests no processing of a speech signal, why would the artisan suddenly ascertain a direction from which a speech signal originates and then process the speech signal in Masahura?

We are not convinced of any reason for the artisan to have modified Masaharu with anything taught by Atsushi in order to result in the instant claimed invention.

Thus, in our view, the examiner has not established a prima facie case of obviousness with regard to the instant claimed subject matter and we will not sustain the rejection of claims 2-6 under 35 U.S.C. §103.



REVERSED

) BOARD OF PATENT  
) APPEALS  
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Appeal No. 2005-1769  
Application No. 09/741,917

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cc: PHILIPS INTELLECTUAL PROPERTY  
& STANDARDS  
P.O. Box 3001  
Briarcliff Manor, N.Y. 10510